

REMARKS

This is a response to the Office Action mailed January 14, 2004. Claims 1-10 will be pending upon entry of the present amendment. Claim 10 is being amended.

Drawings - Figure 4 has been amended to label elements as requested by the Examiner. Figures 6 and 7 have been amended to label elements for consistency with figures 1-5. Three (3) sheets of drawings is/are presented herewith for approval.

The drawings are objected to as not showing the “switch” and “switching arrangement”, recited by claims 2 and 5. The multiplexer illustrated by Figure 7, element 30 comprises the “switch” and “switching arrangement” as recited in claims 2 and 5. Of course, this is only one example of a switch or switching arrangement. One skilled in the art can appreciate that there are many other switches that can be used. As all features recited by the claims are shown in the drawings, no further amendments to the drawings are necessary.

Rejections Under 35 U.S.C. §102

Claims 1-3, 5-7 are rejected under 35 U.S.C. §102(b) as being anticipated by Motika et al. (U.S. Patent 5,983,380).

Motika is generally directed towards the compression of multiple scan chain output signals onto one or more output signal pins. The device taught by Motika comprises scan chains 134, 136, etc., compression logic 16, and first terminals 140. The inputs to the scan chains 134, 136, etc. are selectively coupleable to either the WRPs 118, 120, etc. or to the output of the adjacent scan chain.

Motika fails to disclose the features of claim 1. Claim 1 recites, *intra alia*, “the plurality of second terminals each being selectively connected, in a first state, to the input end of the second scan chain of one of each pair of scan chains for external input connection or, in a second state, to the output end of the second scan chain for external output connection” Motika fails to disclose such second terminals that are selectively coupleable to either be an external input connection, or an external output connection (*see e.g.*, elements 5, 26, 27, 28, and 32 of Figure 7 of the present application). The first terminals 140, as disclosed by Motika, are always external input connections. The outputs of the scan chains of Motika are connected to the

SIGNAL OUT pin via the MISR 16 or the output multiplexers, but are always for external output connections. One example of the features of claim 1 may be illustrated by Figure 7. During the first state, the second terminal (I/O pin 5) is configured for providing external input connection to scan chain 33 via switch 30. During the second state, the second terminal (I/O pin 5) is configured for providing an external output connection for scan chain 33 via buffer 26. The selection of the first or second state is determined by the value of the select/enable signal 28. As Motika fails to disclose a bi-directional input/output pin, it necessarily fails to disclose the second terminals as recited by claim 1. Accordingly, Motika does not anticipate claim 1, and thus claim 1 is allowable.

Rejections Under 35 U.S.C. §103

Claim 4 is rejected under 35 U.S.C. §103(a) as being unpatentable over Motika et al. (U.S. Patent 5,983,380).

Motika does not disclose, teach, or suggest the features recited by claim 4. Claim 4 depends on claim 1. As discussed above, Motika fails to disclose the second terminals that are configurable to be either external input connections or external output connections, as recited by claim 1. Further, Motika does not teach or suggest such bi-directional second terminals. As the underlying basis for the rejection is not disclosed, taught, or suggested by Motika, there can be no motivation for extension of the base claim, as recited by claim 4. Accordingly, claim 4 is allowable.

Claims 8-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Motika et al. (U.S. Patent 5,983,380) in view of Rajski et al. (U.S. Patent 6,557,129).

Motika and/or Rajski do not disclose, teach, or suggest the features recited by claims 8 and 9. Claims 8 and 9 depend on claim 1. As discussed above, Motika fails to disclose the second terminals that are configurable to be either external input connections or external output connections, as recited by claim 1. Further, Rajski fails to disclose such bi-directional second terminals. Finally, Motika and/or Rajski fail to teach or suggest any such bi-directional second terminals. As the underlying basis for the rejection is not disclosed, taught, or suggested

by Motika and/or Rajski, there can be no motivation for extension of the base claim, as recited by claims 8 and 9. Accordingly, claims 8 and 9 are allowable.

Motika and/or Rajski do not disclose, teach, or suggest the features recited by claim 10. Claim 10 has been amended to recite, *intra alia*, “the plurality of second terminals each being selectively connected, in a first state, to the input end of one of the scan chains for external input connection or, in a second state, to the output end of one of the scan chains for external output connection” As discussed above, Motika and/or Rajski fail to disclose, teach, or suggest such any such bi-directional second terminals. Accordingly, any combination of the teachings of Motika and Rajski would not result in the features as recited by claim 10. Claim 10 is thus allowable.

New Claims

New claims 11-16 are added. Claim 11 recites, *intra alia*, “the plurality of external bi-directional pins each being selectively connected, in a first state, to the input end of the second scan chain of one of each pair of scan chains for external input connection or, in a second state, to the output end of the second scan chain for external output connection” As discussed above, Motika and/or Rajski fail to disclose, teach, or suggest such any such external bi-directional pins. Accordingly, any combination of the teachings of Motika and Rajski would not result in the features as recited by claim 11. Claim 11 is thus allowable.

Conclusion

Overall, none of the references singly or in any motivated combination disclose, teach, or suggest what is recited in the independent claims. Thus, given the above amendments and accompanying remarks, the independent claims are now in condition for allowance. The dependent claims that depend directly or indirectly on these independent claims are likewise allowable.

If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities

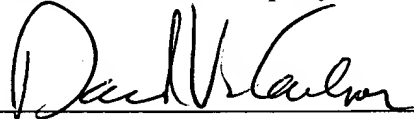
or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 622-4900.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC



David V. Carlson
Registration No. 31,153

DVC:lcs

Enclosures:

Postcard

3 Replacement Sheets of Drawings (Figures 4, 6 & 7)

701 Fifth Avenue, Suite 6300
Seattle, Washington 98104-7092
Phone: (206) 622-4900
Fax: (206) 682-6031